

INTERNATIONAL SEARCH REPORT

Int. Application No.

PCT/JP 03/03359

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C21D1/19 C22C38/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C21D C22C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 527 276 A (NIPPON KOKAN KK) 17 February 1993 (1993-02-17) cited in the application	
A	US 6 080 247 A (ARNETT CHARLES R ET AL) 27 June 2000 (2000-06-27)	
A	US 5 393 358 A (SHIKANAI NOBUO ET AL) 28 February 1995 (1995-02-28) cited in the application	
A	US 5 108 518 A (FUKUI KIYOSHI ET AL) 28 April 1992 (1992-04-28)	
	-/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

22 April 2004

Date of mailing of the international search report

03/05/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Mollet, G

INTERNATIONAL SEARCH REPORT

International Application No
PCT 03/03359

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>PATENT ABSTRACTS OF JAPAN vol. 1998, no. 01, 30 January 1998 (1998-01-30) & JP 09 249935 A (SUMITOMO METAL IND LTD), 22 September 1997 (1997-09-22) abstract</p> <p>-----</p>	

INTERNATIONAL SEARCH REPORT

Initial Application No
/FR 03/03359

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0527276	A	17-02-1993	AU 632187 B2	17-12-1992
			AU 6772090 A	12-12-1991
			CA 2033267 A1	07-12-1991
			EP 0527276 A1	17-02-1993
			FI 906406 A	07-12-1991
			GB 2244718 A	11-12-1991
			JP 4228536 A	18-08-1992
			US 5284529 A	08-02-1994
			US 5403410 A	04-04-1995
			US 5236521 A	17-08-1993
			ZA 9106413 A	29-04-1992
			ZA 9106416 A	29-04-1992
US 6080247	A	27-06-2000	US 5865385 A	02-02-1999
			AU 716971 B2	09-03-2000
			AU 6278798 A	09-09-1998
			BR 9805899 A	25-04-2000
			CA 2251106 A1	27-08-1998
			EP 0904154 A1	31-03-1999
			ID 19956 A	27-08-1998
			PL 329371 A1	29-03-1999
			WO 9836838 A1	27-08-1998
			ZA 9801348 A	24-08-1998
US 5393358	A	28-02-1995	JP 3089882 B2	18-09-2000
			JP 6256896 A	13-09-1994
			US 5284529 A	08-02-1994
			US 5403410 A	04-04-1995
			US 5236521 A	17-08-1993
US 5108518	A	28-04-1992	JP 1975374 C	27-09-1995
			JP 3188217 A	16-08-1991
			JP 7005970 B	25-01-1995
			DE 4040355 A1	04-07-1991
JP 09249935	A	22-09-1997	NONE	